

ABSTRACT

The invention provides a novel scheme to align data streams across multiple transmission channels and match multiple transmissions with one receiving rate.

5       The channel aligning aspect of this invention detects the occurrence of an aligning character in a plurality of input channel character streams, buffers the character stream until an aligning character has been detected on every input channel. The channel aligning system transmits filler characters over every output channel corresponding to an input  
10       channel where an aligning character has been received if an aligning character has not been detected on every input channel. The aligning system then synchronously transmits the buffered characters, starting with the aligning character and proceeding with the subsequently received characters.

15       The rate matching aspect of this invention receives a plurality of character streams synchronized by a first clock and buffers the character streams. Buffered characters are then transmitted over one or more output channels synchronized  
20       by a second clock. The rate matching system inserts a filler character in each output channel if an underflow condition is detected and removes a filler character from each output channel if an overflow condition is detected.